

EXHIBIT A

P.R. 4-5 JOINT CLAIM CONSTRUCTION CHART

The '338 Patent			
Claims (Disputed Term in Bold)	Plaintiff's Proposed Construction	Defendants' Proposed Construction ¹	Court's Construction
<p>“translating the uplink and downlink signals between RF and base band as appropriate” ('338 Patent, cl. 1)</p> <p><u>Claim 1</u> 1. A method for routing and switching RF signals comprising:</p> <p>providing one or more remote radio units, each remote radio unit configured to transmit one or more downlink RF signals and to receive one or more uplink RF signals;</p> <p>providing at least one digital access unit configured to communicate with the one or more remote radio units;</p> <p>translating the uplink and downlink signals between RF and base band as appropriate;</p> <p>packetizing the uplink and downlink base band signals, wherein the packetized signals correspond to a plurality of carriers;</p> <p>configuring each remote radio unit to receive or transmit a respective subset of the plurality of carriers, each respective subset of the plurality of carriers including a number of carriers;</p> <p>reconfiguring each remote radio unit by:</p> <p>determining a load percentage for each remote radio unit; and</p>	<p>Plain and ordinary meaning in accordance with the plain and ordinary meaning of “downlink signals”, and wherein “translating . . . as appropriate” is a conditional limitation</p>	<p>This phrase “recites ‘as appropriate’ to mean the amount of translation necessary to produce a baseband signal from an RF signal”, according to the construction and reasoning of the Delaware district court</p>	

¹ Each defendant joins only as to the patents asserted against it in this case.

<p>increasing or decreasing the number of carriers in the respective subset of the plurality of carriers based on the load percentage; and</p> <p>routing and switching the packetized signals among the one or more remote radio units via the at least one digital access unit according to a result of the reconfiguring.</p>			
Claims (Disputed Term in Bold)	Plaintiff's Proposed Construction	Defendants' Proposed Construction	Court's Construction
<p>“downlink signals” (’338 Patent, cl. 1)</p> <p><u>Claim 1</u> 1. A method for routing and switching RF signals comprising:</p> <p>providing one or more remote radio units, each remote radio unit configured to transmit one or more downlink RF signals and to receive one or more uplink RF signals;</p> <p>providing at least one digital access unit configured to communicate with the one or more remote radio units;</p> <p>translating the uplink and downlink signals between RF and base band as appropriate;</p> <p>packetizing the uplink and downlink base band signals, wherein the packetized signals correspond to a plurality of carriers;</p> <p>configuring each remote radio unit to receive or transmit a respective subset of the plurality of carriers, each respective subset of the plurality of carriers including a number of carriers;</p> <p>reconfiguring each remote radio unit by:</p> <p>determining a load percentage for each remote radio unit; and</p>	<p>Plain and ordinary meaning which is: signals transmitted in the downlink direction</p>	<p>This term should “be given [its] plain and ordinary meaning, which is ‘signals transmitted in the downlink direction’”, and must be construed in the context of the “translating the uplink and downlink signals between RF and base band as appropriate” phrase in which it appears, and the claim as a whole, according to the construction and reasoning of the Delaware district court</p>	

<p>increasing or decreasing the number of carriers in the respective subset of the plurality of carriers based on the load percentage; and</p> <p>routing and switching the packetized signals among the one or more remote radio units via the at least one digital access unit according to a result of the reconfiguring.</p>			
Claims (Disputed Term in Bold)	Plaintiff's Proposed Construction	Defendants' Proposed Construction	Court's Construction
<p>“packetizing the uplink and downlink baseband signals” (’338 Patent, cl. 1)</p> <p><u>Claim 1</u> 1. A method for routing and switching RF signals comprising:</p> <p>providing one or more remote radio units, each remote radio unit configured to transmit one or more downlink RF signals and to receive one or more uplink RF signals;</p> <p>providing at least one digital access unit configured to communicate with the one or more remote radio units;</p> <p>translating the uplink and downlink signals between RF and base band as appropriate;</p> <p>packetizing the uplink and downlink base band signals, wherein the packetized signals correspond to a plurality of carriers;</p> <p>configuring each remote radio unit to receive or transmit a respective subset of the plurality of carriers, each respective subset of the plurality of carriers including a number of carriers;</p> <p>reconfiguring each remote radio unit by:</p>	<p>Plain and ordinary meaning in accordance with the plain and ordinary meaning of “downlink signals.” A POSITA would understand antecedent basis for “baseband signals” is present by implication</p>	<p>“packetizing the uplink and downlink baseband signals that were produced in the ‘translating’ step”, according to the construction and reasoning of the Delaware court</p>	

<p>determining a load percentage for each remote radio unit; and</p> <p>increasing or decreasing the number of carriers in the respective subset of the plurality of carriers based on the load percentage; and</p> <p>routing and switching the packetized signals among the one or more remote radio units via the at least one digital access unit according to a result of the reconfiguring.</p>			
Claims (Disputed Term in Bold)	Plaintiff's Proposed Construction	Defendants' Proposed Construction	Court's Construction
<p>“routing and switching the packetized signals among the one or more remote radio units via the at least one digital access unit” (’338 Patent, cl. 1)</p> <p><u>Claim 1</u> 1. A method for routing and switching RF signals comprising:</p> <p>providing one or more remote radio units, each remote radio unit configured to transmit one or more downlink RF signals and to receive one or more uplink RF signals;</p> <p>providing at least one digital access unit configured to communicate with the one or more remote radio units;</p> <p>translating the uplink and downlink signals between RF and base band as appropriate;</p> <p>packetizing the uplink and downlink base band signals, wherein the packetized signals correspond to a plurality of carriers;</p> <p>configuring each remote radio unit to receive or transmit a respective subset of the plurality of carriers, each respective subset of the plurality of carriers including a number of carriers;</p>	<p>Plain and ordinary meaning in accordance with the plain and ordinary meaning of “downlink signals”</p>	<p>This phrase “refers to ‘the packetized signals’ produced by the packetizing step and includes both uplink baseband signals and downlink baseband signals that were previously packetized,” according to the construction and reasoning of the Delaware district court</p> <p>The “routing and switching . . . via the at least one DAU” portion of this phrase should be construed as “routing and switching . . . through the at least one DAU,” according to the construction and reasoning of the Delaware district court</p>	

reconfiguring each remote radio unit by: determining a load percentage for each remote radio unit; and increasing or decreasing the number of carriers in the respective subset of the plurality of carriers based on the load percentage; and routing and switching the packetized signals among the one or more remote radio units via the at least one digital access unit according to a result of the reconfiguring.			
Claims (Agreed Term in Bold)	Plaintiff's Proposed Construction	Defendants' Proposed Construction	Court's Construction
"reconfiguring each remote radio unit" ('338 Patent, cl. 1) <u>Claim 1</u> 1. A method for routing and switching RF signals comprising: providing one or more remote radio units, each remote radio unit configured to transmit one or more downlink RF signals and to receive one or more uplink RF signals; providing at least one digital access unit configured to communicate with the one or more remote radio units; translating the uplink and downlink signals between RF and base band as appropriate; packetizing the uplink and downlink base band signals, wherein the packetized signals correspond to a plurality of carriers; configuring each remote radio unit to receive or transmit a respective subset of the plurality of carriers, each	"changing the configuration of each remote radio unit" [AGREED]	"changing the configuration of each remote radio unit" [AGREED]	"changing the configuration of each remote radio unit"

<p>respective subset of the plurality of carriers including a number of carriers;</p> <p>reconfiguring each remote radio unit by:</p> <p>determining a load percentage for each remote radio unit; and</p> <p>increasing or decreasing the number of carriers in the respective subset of the plurality of carriers based on the load percentage; and</p> <p>routing and switching the packetized signals among the one or more remote radio units via the at least one digital access unit according to a result of the reconfiguring.</p>			
Claims (Agreed Term in Bold)	Plaintiff's Proposed Construction	Defendants' Proposed Construction	Court's Construction
<p>“load percentage” (’338 Patent, cl. 1)</p> <p><u>Claim 1</u></p> <p>1. A method for routing and switching RF signals comprising:</p> <p>providing one or more remote radio units, each remote radio unit configured to transmit one or more downlink RF signals and to receive one or more uplink RF signals;</p> <p>providing at least one digital access unit configured to communicate with the one or more remote radio units;</p> <p>translating the uplink and downlink signals between RF and base band as appropriate;</p> <p>packetizing the uplink and downlink base band signals, wherein the packetized signals correspond to a plurality of carriers;</p> <p>configuring each remote radio unit to receive or transmit a respective subset of the plurality of carriers, each</p>	<p>“a value representing the portion of available capacity that is in use” [AGREED]</p>	<p>“a value representing the portion of available capacity that is in use” [AGREED]</p>	<p>“a value representing the portion of available capacity that is in use”</p>

<p>respective subset of the plurality of carriers including a number of carriers;</p> <p>reconfiguring each remote radio unit by:</p> <p>determining a load percentage for each remote radio unit; and</p> <p>increasing or decreasing the number of carriers in the respective subset of the plurality of carriers based on the load percentage; and</p> <p>routing and switching the packetized signals among the one or more remote radio units via the at least one digital access unit according to a result of the reconfiguring.</p>			
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The '232 Patent			
Claims (Disputed Term in Bold)	Plaintiff's Proposed Construction ²	Defendants' Proposed Construction ³	Court's Construction
<p>"radio resources" ('232 Patent, cls. 1, 3, 12, 14, 20)</p> <p><u>Claim 1</u></p> <p>1. A wireless system comprising:</p> <p>one or more central nodes that receive a number of a plurality of radio resources from an operator hub that enables wireless communications and that provides the plurality of radio resources to a radio access network</p>	<p>Plain and ordinary meaning where the plain and ordinary meaning includes RF carriers, CDMA codes, and TDMA time slots, but does not include the underlying data that is transmitted.</p> <p>Note: when data is modulated on an RF carrier, the RF carrier</p>	<p>Plain and ordinary meaning where the plain and ordinary meaning includes RF carriers, CDMA codes, and TDMA time slots, but does not include the underlying data that is transmitted.</p> <p>Note: when data is modulated on an RF carrier, the RF carrier</p>	

² Plaintiff disagrees with Defendants' characterization of the dispute for this claim term in the footnote below. Plaintiff's position is detailed in its briefing at Dkts. 113 and 122.

³ Defendants position is that Dali maintains an interpretation of this "agreed" construction that the WDTX rejected—*i.e.*, that "radio resources" encompasses **information about** radio resources (*i.e.*, parameters used for configuration/reconfiguration of a remote unit). Defendants request the Court confirm that "radio resources" does not include such configuration/reconfiguration information.

<p>using the Common Public Radio Interface (CPRI) protocol; and</p> <p>a plurality of wireless access points that is coupled to the one or more central nodes and distributes one or more wireless signals to one or more wireless subscribers, the plurality of wireless access points including at least a first access point and a second access point,</p> <p>wherein one or more central nodes assigns a first subset of the number of the plurality of radio resources to the first access point and a second subset of the number of the plurality of radio resources to the second access point, the first subset including more radio resources than the second subset, and</p> <p>wherein, in response to a change in need of a number of wireless subscribers coupled to the second access point and which of the second subset is loaded beyond a threshold, the one or more central nodes assign additional radio resources of the plurality of radio resources to the second access point.</p>	<p>is a radio resource, but the data modulated on the RF carrier is not a radio resource</p>	<p>is a radio resource, but the data modulated on the RF carrier is not a radio resource</p>	
Claims (Disputed Term in Bold)	Plaintiff's Proposed Construction ⁴	Defendants' Proposed Construction	Court's Construction
<p>"operator hub" ('232 Patent, cls. 1, 12, 20)</p> <p><u>Claim 1</u></p> <p>1. A wireless system comprising:</p> <p>one or more central nodes that receive a number of a plurality of radio resources from an operator hub that enables wireless communications and that provides the</p>	<p>Plain and ordinary meaning</p>	<p>Plain and ordinary meaning⁵</p>	

⁴ Plaintiff disagrees with Defendants' characterization of the dispute for this claim term in the footnote below. Plaintiff's proposed construction is detailed in its briefing at Dkt. 113.

⁵ See Defendants' Responsive Claim Construction Brief (Dkt. 118) at p. 13 (identifying "there is no longer an *O2 Micro* dispute with this term.")

<p>plurality of radio resources to a radio access network using the Common Public Radio Interface (CPRI) protocol; and</p> <p>a plurality of wireless access points that is coupled to the one or more central nodes and distributes one or more wireless signals to one or more wireless subscribers, the plurality of wireless access points including at least a first access point and a second access point,</p> <p>wherein one or more central nodes assigns a first subset of the number of the plurality of radio resources to the first access point and a second subset of the number of the plurality of radio resources to the second access point, the first subset including more radio resources than the second subset, and</p> <p>wherein, in response to a change in need of a number of wireless subscribers coupled to the second access point and which of the second subset is loaded beyond a threshold, the one or more central nodes assign additional radio resources of the plurality of radio resources to the second access point.</p>			
Claims (Disputed Term in Bold)	Plaintiff's Proposed Construction	Defendants' Proposed Construction	Court's Construction
<p>“an operator hub . . . that provides the plurality of radio resources to a radio access network using the Common Public Radio Interface (CPRI) protocol” ('232 Patent, cl. 1)</p> <p><u>Claim 1</u></p> <p>1. A wireless system comprising:</p> <p>one or more central nodes that receive a number of a plurality of radio resources from an operator hub that enables wireless communications and that provides the plurality of radio resources to a radio access network</p>	Plain and ordinary meaning	<p>Plain and ordinary meaning.</p> <p>Note: the phrase “that provides the plurality of radio resources to a radio access network using the Common Public Radio Interface (CPRI) protocol” modifies “operator hub”</p>	

<p>using the Common Public Radio Interface (CPRI) protocol; and</p> <p>a plurality of wireless access points that is coupled to the one or more central nodes and distributes one or more wireless signals to one or more wireless subscribers, the plurality of wireless access points including at least a first access point and a second access point,</p> <p>wherein one or more central nodes assigns a first subset of the number of the plurality of radio resources to the first access point and a second subset of the number of the plurality of radio resources to the second access point, the first subset including more radio resources than the second subset, and</p> <p>wherein, in response to a change in need of a number of wireless subscribers coupled to the second access point and which of the second subset is loaded beyond a threshold, the one or more central nodes assign additional radio resources of the plurality of radio resources to the second access point.</p>			
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The '499 Patent			
Claims (Disputed Term in Bold)	Plaintiff's Proposed Construction ⁶	Defendants' Proposed Construction ⁷	Court's Construction
<p>"radio resources" ('499 Patent, cls. 1-4, 8-11, 13-16, 18, 19)</p> <p><u>Claim 1</u></p>	Plain and ordinary meaning where the plain and ordinary meaning includes RF carriers, CDMA codes, and TDMA time	Plain and ordinary meaning where the plain and ordinary meaning includes RF carriers, CDMA codes, and TDMA time	

⁶ Plaintiff disagrees with Defendants' characterization of the dispute for this claim term in the footnote below. Plaintiff's position is detailed in its briefing at Dkts. 113 and 122.

⁷ Defendants position is that Dali maintains an interpretation of this "agreed" construction that the WDTX rejected—*i.e.*, that "radio resources" encompasses *information about* radio resources (*i.e.*, parameters used for configuration/reconfiguration of a remote unit). Defendants request the Court confirm that "radio resources" does not include such configuration/reconfiguration information.

<p>1. A system for transporting wireless communications, comprising:</p> <p>a baseband unit;</p> <p>a plurality of signal sources, including at least a first signal source and a second signal source;</p> <p>a plurality of remote units, including at least a first remote unit and a second remote unit;</p> <p>wherein the baseband unit comprises a plurality of interfaces to communicatively couple the baseband unit to the plurality of signal sources;</p> <p>wherein the baseband unit is configured to receive a plurality of radio resources from the first signal source and the second signal source;</p> <p>wherein the baseband unit is configured to send a digital representation of a first set of radio resources to the first remote unit at a first point in time, the first set of radio resources for transmission at an antenna of the first remote unit;</p> <p>wherein the baseband unit is configured to send a digital representation of a second set of radio resources to the first remote unit at a second point in time, the second set of radio resources for transmission at the antenna of the first remote unit;</p> <p>wherein a number of radio resources in the first set of radio resources is different from a number of radio resources in the second set of radio resources; and</p> <p>wherein the baseband unit is configured to receive digital signals from each of the plurality of remote units.</p>	<p>slots, but does not include the underlying data that is transmitted.</p> <p>Note: when data is modulated on an RF carrier, the RF carrier is a radio resource, but the data modulated on the RF carrier is not a radio resource</p>	<p>slots, but does not include the underlying data that is transmitted.</p> <p>Note: when data is modulated on an RF carrier, the RF carrier is a radio resource, but the data modulated on the RF carrier is not a radio resource</p>	
Claims (Agreed Term in Bold)	Plaintiff's Proposed Construction	Defendants' Proposed Construction	Court's Construction

<p>“is configured to” (’499 Patent, cls. 1, 8)</p> <p><u>Claim 1</u></p> <p>1. A system for transporting wireless communications, comprising:</p> <p>a baseband unit;</p> <p>a plurality of signal sources, including at least a first signal source and a second signal source;</p> <p>a plurality of remote units, including at least a first remote unit and a second remote unit;</p> <p>wherein the baseband unit comprises a plurality of interfaces to communicatively couple the baseband unit to the plurality of signal sources;</p> <p>wherein the baseband unit is configured to receive a plurality of radio resources from the first signal source and the second signal source;</p> <p>wherein the baseband unit is configured to send a digital representation of a first set of radio resources to the first remote unit at a first point in time, the first set of radio resources for transmission at an antenna of the first remote unit;</p> <p>wherein the baseband unit is configured to send a digital representation of a second set of radio resources to the first remote unit at a second point in time, the second set of radio resources for transmission at the antenna of the first remote unit;</p> <p>wherein a number of radio resources in the first set of radio resources is different from a number of radio resources in the second set of radio resources; and</p>	<p>Plain and ordinary meaning, which requires being configured, not merely capable of being configured [AGREED]</p>	<p>Plain and ordinary meaning, which requires being configured, not merely capable of being configured [AGREED]</p>	<p>Plain and ordinary meaning, which requires being configured, not merely capable of being configured</p>
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wherein the baseband unit is configured to receive digital signals from each of the plurality of remote units.			
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The '358 Patent			
Claims (Disputed Term in Bold)	Plaintiff's Proposed Construction	Defendants' Proposed Construction	Court's Construction
<p>"a [first/second] communications unit" ('358 Patent, cls. 7, 9, 11, 15)</p> <p><u>Claim 7</u> 7. A method of distributing communications frequencies, the method providing:</p> <p>providing a set of communications units;</p> <p>transmitting and receiving, from a first communications unit of the set of communications units:</p> <p>a first set of frequencies characterized by a first frequency band and a first geographic footprint; and</p> <p>a second set of frequencies characterized by a second frequency band different from the first frequency band and a second geographic footprint larger than and at least partially surrounding the first geographic footprint; and</p> <p>transmitting, and receiving, from a second communications unit of the set of communications units:</p> <p>a third set of frequencies including one or more frequencies in the first frequency band and a third geographical footprint; and</p> <p>a fourth set of frequencies including one or more frequencies in a third frequency band and a fourth geographical footprint larger than and at least partially surrounding the third geographical footprint.</p>	Plain and ordinary meaning	A communications unit can include a plurality of remote antenna units	

Claims (Disputed Term in Bold)	Plaintiff's Proposed Construction	Defendants' Proposed Construction	Court's Construction
<p>“distributing communications frequencies” (’358 Patent, cl. 7)</p> <p><u>Claim 7</u> 7. A method of distributing communications frequencies, the method providing:</p> <p>providing a set of communications units;</p> <p>transmitting and receiving, from a first communications unit of the set of communications units:</p> <p>a first set of frequencies characterized by a first frequency band and a first geographic footprint; and</p> <p>a second set of frequencies characterized by a second frequency band different from the first frequency band and a second geographic footprint larger than and at least partially surrounding the first geographic footprint; and</p> <p>transmitting, and receiving, from a second communications unit of the set of communications units:</p> <p>a third set of frequencies including one or more frequencies in the first frequency band and a third geographical footprint; and</p> <p>a fourth set of frequencies including one or more frequencies in a third frequency band and a fourth geographical footprint larger than and at least partially surrounding the third geographical footprint.</p>	<p>Plain and ordinary meaning with the understanding that “distributing” essentially implicates a DAS</p>	<p>This language from the preamble of claim 7 is not a limitation</p>	
Claims (Disputed Term in Bold)	Plaintiff's Proposed Construction	Defendants' Proposed Construction	Court's Construction
<p>“geographic footprint” / “geographical footprint (’358 Patent, cls. 7, 9, 11, 15, 18</p> <p><u>Claim 7</u></p>	<p>radio coverage area meaning an area defined by user accessible frequenc(ies)</p>	<p>radio coverage area</p>	

<p>7. A method of distributing communications frequencies, the method providing:</p> <p>providing a set of communications units;</p> <p>transmitting and receiving, from a first communications unit of the set of communications units:</p> <p>a first set of frequencies characterized by a first frequency band and a first geographic footprint; and</p> <p>a second set of frequencies characterized by a second frequency band different from the first frequency band and a second geographic footprint larger than and at least partially surrounding the first geographic footprint; and</p> <p>transmitting, and receiving, from a second communications unit of the set of communications units:</p> <p>a third set of frequencies including one or more frequencies in the first frequency band and a third geographical footprint; and</p> <p>a fourth set of frequencies including one or more frequencies in a third frequency band and a fourth geographical footprint larger than and at least partially surrounding the third geographical footprint.</p>			
Claims (Disputed Term in Bold)	Plaintiff's Proposed Construction	Defendants' Proposed Construction	Court's Construction
<p>"host unit" ('358 Patent, cls. 8, 15)</p> <p><u>Claim 8</u></p> <p>8. The method of claim 7 wherein the set of communications units includes a plurality of remote units in communication with a host unit.</p>	Plain and ordinary meaning	A unit that distributes communications frequencies between an operator network and antenna units	
Claims (Disputed Term in Bold)	Plaintiff's Proposed Construction	Defendants' Proposed Construction	Court's Construction

“the first frequency band and the second frequency band” (’358 Patent, cl. 20) <u>Claim 20</u> 20. The communications system of claim 15 wherein the first frequency band and the second frequency band are contiguous frequency bands.	Not indefinite. Plain and ordinary meaning	Indefinite	
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